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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,367	08/31/2001	Kevin Hunter	500893.01	2110

7590 01/24/2006

Kimton N. Eng, Esq.
DORSEY & WHITNEY LLP
1420 Fifth Avenue, Suite 3400
Seattle, WA 98101

EXAMINER

AMINI, JAVID A

ART UNIT	PAPER NUMBER
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2672

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/945,367

Applicant(s)

HUNTER, KEVIN

Examiner

Javid A. Amini

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Arguments

Applicant's arguments filed 11/15/2005 have been fully considered but they are not persuasive.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11, 13-36 rejected under 35 U.S.C. 103(a) as being unpatentable over Myhrvold et al. 5,867,166, hereinafter refer as Myhrvold, and further in view of Hill et al. 6,278,434 B1, hereinafter refers as Hill.

Claim 1.

Myhrvold 's invention at col. 2, lines 5-16 relates to the application model represents the data or objects to be displayed, assuming of course that the image processing is based upon a model. The model includes information concerning primitives such as points, lines, and polygons that define the objects' shapes, as well as the attributes of the objects (e.g., color). The application program controls inputs to, and outputs from, the application model-effectively acting as a translator between the application model and graphics sub-system. Finally, the graphics sub-system is responsible for passing user inputs to the application model and is responsible for producing the image from the detailed descriptions stored by the application model. The claim language of "a method for calculating values for pixels of an image of an environment represented by geometric primitives that are defined by geometric data".

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Myhrvold at col. 14, lines 45-55 teaches the claim language of “transforming primitives from a first coordinate space to a second coordinate space”. Myhrvold discloses determining how to divide the object geometry among the chunks (250). The image preprocessor determines how the geometric primitives (e.g. polygons) should be divided among the chunks by transforms the polygons to 2-D space (252) and determining which chunk or chunks the polygons project into. Due to the expense of clipping polygons, the preferred approach is to not clip the polygons lying at the edge of a chunk. Instead, a chunk includes polygons that overlap its edge. If a polygon extends over the border of two chunks, for example, in this approach the vertices of the polygon are included in each chunk. The next step of the claim language claims “for at least a plurality of the transformed primitives, separately shifting each of the transformed primitives in the second coordinate space by a respective first sub-pixel offset from a respective first pixel position to a respective first sub-pixel position”. Myhrvold at col. 31 lines 30-32 teaches the gsprites are subdivided into chunks, and the chunks are rendered separately. Examiner’s comment: Applicant should explicitly specify the significant of the transformed primitives separately over the prior art rendering separately in the coordinates. The next step of the claim claims “separately rendering each of the shifted primitives at the respective first sub-pixel position to generate values for a respective first set of pixels for the each shifted primitive”. Myhrvold in figs. 15a and 15 b illustrates separately rendering each pixel or sub-pixel and in fig. 15a illustrates a bounding box of gsprite of fig. 15b. 3. See also figs. 16 and 16b, which are illustrated rendering separately, and plurality shifted primitives. Examiner’s comment: Applicant requires specifying the significant of separately shifting each of the plurality of transformed primitives. The step of the following claim language: separately shifting each of the plurality of transformed primitives

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in the second coordinate space by a respective second sub-pixel offset from the respective first pixel position to a respective second sub-pixel position" is obvious because the processes of computing has to change the positions of transformed primitives also it has to be related to one or more sub-pixel. Examiner's comments: Applicant uses statements in the claim that opens more than one interpretation, and Applicant may explicitly specify the significant of separately shifting primitives relative to set of pixels or sub-pixels. Applicant in the last part of the claim claims combining the values for the respective first and second sets of pixels for each of the plurality of transformed primitives. Examiner's comments: The claim language is ambiguous, because the values of the first and second pixels are combining (interpretation: adding) while the values of the first and second steps of pixels and sub-pixels are separately shifting, see previous steps of the claim. Applicant does not specify at which state the values are combining. Myhrvold teaches briefly in the abstract for generating images includes rendering graphical models comprising a scene to separate image layers called "gsprites," and then compositing these image layers to generate an image. But Myhrvold silenced about pixel and sub-pixel positions, however, Hill at col. 2, lines 5-20 teaches color LCD displays, which are exemplary of display devices which utilize multiple distinctly addressable elements, referred to herein as pixel sub-elements or pixel sub-components, to represent each pixel of an image being displayed. Normally, each pixel on a color LCD display is represented by a single pixel element, which usually comprises three non-square elements, i.e., red, green and blue (RGB) pixel sub-components. Thus, a set of RGB pixel sub-components together makes up a single pixel element. LCD displays of the known type comprise a series of RGB pixel sub-components, which are commonly arranged to form stripes along the display. Thus, it would have been

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obvious to a person skill in the art by modifying Hill into Myhrvold in order for generating image data generally to an image layer that can be composited with other image layers to form a display image, utilizing multiple distinct portions of an output device, e.g., an LCD display, to represent a single pixel of captured images such as photographs, accurately and clearly

Re claims 2, 15-17, 19, and 25-26, Myhrvold at col. 14, lines 45-55 teaches the claim language.

Re claims 3, 20, 27, and 34, Myhrvold at col. 9, lines 51-60 teaches the claim language.

Re claims 4-6 and 30-32, Myhrvold at col. 30, lines 18-25 teaches the limitation of the claim.

Re claims 7, 9, 11, 13-14, 22-23, 29 and 36 see rejection of claim 1, and Hill at col. 3, lines 27-37.

Re claims 8, 21, 28, and 35, Hill in fig. 2B illustrates how each pixel element, e.g., the (R1, C4) pixel element, comprises three distinct sub-element or sub-components, a red sub-component 206, a green sub-component 207 and a blue sub-component 208. Each known pixel sub-component 206, 207, 208 is 1/3 or approximately 1/3 the width of a pixel while being equal, or approximately equal, in height to the height of a pixel. Thus, when combined, the three 1/3 width pixel sub-components 206, 207, 208 form a single pixel element.

Re claims 10, 18, 24, and 33, the Limitation of claims 10, 18, 24, and 33 are identical to claim 1 above. Therefore, claims 10, 18, 24, and 33 are treated with respect to grounds as set forth for claim 1 above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

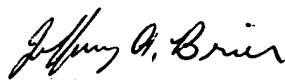
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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A. Amini whose telephone number is 571-272-7654. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Javid A. Amini
PRIMARY EXAMINER

Javid A Amini
Examiner
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Javid AMini